Prior to the initiation of the SLTER Program, the VCR LTER was involved with informal, ad hoc activities oriented toward the enhancement of k-12 education with a focus at the high school level. The SLTER Program has allowed for this effort to take on a more formal approach, and has been very successful to date. Past successes have included:

1. Established Web Site for Northampton High School LTER Program.
- http://www.vcrlter.virginia.edu/slter.
- Ask a Scientist a Question
- GPS Data Submission Form and Data Archive Forms
- GPS/GIS web page
- linked the NSH SLTER web site to the LTER Network Home Page

2. Established a Graduate Level Course for Northampton County Teachers to be offered in July 2001. Course Title: 'Field Methods in Environmental Sciences'. 3 credits. Offered at the VCR/LTER Field Station in Oyster, Virginia.

3. Established access to Indiantown Park (Northampton County Parks and Recreation) and the adjacent marshes for use as field trips for GPS, GIS, Water Chemistry, and Plant Taxonomy and other field trip activities for NHS/SLTER activities.

4. Purchased and installed 10 Dell Dimension 4100 computers in 4 science classrooms at Northampton High School.
- Networking capabilities
- Netmeeting capabilities with web cam and microphones (cross-site SLTER meeting capability).
- SLTER student access to the Internet.
- Arcview 3.2 installation for NHS SLTER PC network for GIS activities
- Enhancing teacher computer capabilities in the classroom

5. Established a SLTER Global Position System program
- purchased 16 Magellan GPS 310 hand-held receivers
- taught GPS instruction and activities to the following classes:
Environmental Sciences Teacher: Tom Bonniwell
Earth Sciences Teacher, Kevin McManus
- field trips for GPS/GIS activities are scheduled for Spring 2001.

6. Established a Water Chemistry Program to be started in Spring 2001 semester.
- purchased supplies necessary for SLTER students to conduct monthly water quality testing
- field trip to VCR/LTER field station scheduled for late January for water chemistry demonstration
- in process of defining monthly sampling locations
- in process of establishing a transect of wells from bayside to seaside for use as groundwater sampling locations in addition to the bayside/seaside sampling locations
- in process of establishing a web page (data submission and archive file) for use by students and classes (similar to GPS data submission and archive).

7. Purchased 24 copies of "Life in the Chesapeake Bay" by Lippson and

Lippson for use as a field guide to local flora and fauna.

8. Purchased 1000 tree tags for use in marking dead trees in GPS/GIS activities and field trips.

9. In process of having a large cabinet for storage of SLTER equipment built for North Hampton HS. Built by local cabinet maker to fit a specific location in the high school.

A full partnership between the VCR researchers and the Northampton High School faculty has developed recently culminating with the entire science faculty from Northampton High joining the VCR researchers in Charlottesville for several days at the January 2001 All-Scientist Meeting. This opportunity

resulted in joint planning of future endeavors as well as an opportunity for both groups of professionals to learn more about the goals and challenges facing one another.

Activities for the coming year will focus primarily in two arenas: continued establishment of the Cobb Mill Creek Schoolyard research site, and the further creation of what has turned out to be very successful modular laboratory kits for the science classes at Northampton High School (see above).

Over the next year or so, the Cobb Mill Creek area will be developed into a state-of-the-art coastal research station. Scientifically, the site is attractive because it includes the transition from fresh to saline water within a relatively short distance. In addition, the associated riparian zone and relatively steep topography creates an interesting "hydrologic field laboratory". VCR researchers and Northampton teachers will be developing a protocol for allowing the high school students to instrument sampling wells to investigate the physical and chemical hydrology of the site. This opportunity will provide the VCR LTER a potentially long-term and important data set for this location while at the same time introducing the high school classes to the scientific enterprise. Quality control is addressed through the involvement of the teachers year-after-year. Sampling stations for the students will be established along the length of Cobb Mill Creek and into Oyster Harbor.

Northampton County resources in support of classroom science are extremely limited. To that end, we have begun establishing modular laboratory units that are available to County teachers (see above). We propose to continue this approach with additional units that deal with Algae and Primary Production, Fish and Fish Assemblage Dynamics, Hydrological Measurements, and Weather and Climate. PIs McGlathery, Smith, Mills and Hayden will take responsibility for the construction of these modules and training the teachers in there use.

Virginia's Standards of Learning (SOL) are a major requirement for all teachers, and in the sciences are important in conveying science literacy. Working with the high school teachers results in the mobile laboratory modules being closely matched with the goals and objectives of the science SOLs for the Commonwealth of Virginia.

While the majority of the funding for this supplement will be dedicated toward supplies ($10,518) for these two primary initiatives, a small amount of money is being requested as stipend ($2,000) to engage gifted high school students in supervised research during the summer at the VCR LTER. This is being included at the request of the high school teachers, since a small group of talented students have expressed an interest in this kind of activity. It is the hope of the PIs and the teachers that these students will serve as "peer resources" at the high school once they have completed a summer of supervised research.

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